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09/647,920	10/13/2000	Kazunori Obata	198399US2PCT	3510

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EXAMINER

SMITH, SHEILA B

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/647,920

Applicant(s)

OBATA ET AL.

Examiner

Sheila B. Smith

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Schwinghammer et al. (U.S. Patent Number 5,953,661).

***Regarding claim 1***, Schwinghammer et al. discloses all of the claimed invention as set forth in the instant application, additionally Schwinghammer et al. discloses a method of maximizing spectral efficiency in a cellular communication system, further Schwinghammer et al. discloses a radio channel control device of a mobile communication system using an autonomous distributed type channel selection scheme in which whether an assignment of a frequency/radio channel is possible or not is judged according to a receiving level of a level measurement channel at a mobile station, a radio channel assignment judgment method (which reads on column 2 lines 1-5) storing and managing an optimal carrier-to interference ratio (CIR) to be used as a threshold in judging whether the assignment of the frequency/radio channel is possible or not, in correspondence to each value that can be taken by the receiving level of the level measurement channel at the mobile station (which reads on column 8 lines 63-67 and column 9 lines 1-5), in a table in advance receiving a communication request and a measurement result of the receiving level of the level measurement channel in a radio zone that is a target of

Art Unit: 2681

the communication request ( which reads on column 4 lines 23-30), that are transmitted from the mobile station at a time of making the communication request; and adaptively selecting the optimal carrier-to interference ratio (CIR) that is corresponding to a received receiving level measurement result from said table (which reads on column 4 lines 30-34), and judging whether the assignment of the frequency/radio channel is possible or not according to a selected carrier-to-interference ratio (CIR) (which reads on column 8 lines 63-67 and column 9 lines 1-5).

*Regarding claim 2*, Schwinghammer et al. discloses everything claimed, as applied above (see claim 1) additionally, Schwinghammer et al. discloses the radio channel assignment judgment method, characterized by selecting an unused assignment candidate frequency/radio channel, requesting the mobile station to measure an interference receiving level of a selected assignment candidate frequency/radio channel and transmit a measurement result of the interference receiving level (which reads on column 2 lines 1-5), judging whether a received interference receiving level satisfies the optimal carrierto-interference ratio (CIR) selected from said table or not, and assigning the selected assignment candidate frequency/radio channel if the received interference receiving level satisfies the optimal carrier-tointerference ratio (CIR) selected from said table, when the communication request and the measurement result of the receiving level of the level measurement channel are received from the mobile station (which reads on column 8 lines 63-67).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2681

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schwinghammer et al. in view of Tanoue (U.S Patent Number 6,041,238).

*Regarding claim 3-4*, Schwinghammer et al. discloses everything claimed, as applied above (see claim 1) additionally, Schwinghammer et al. discloses A radio channel control device of a mobile communication system using an autonomous distributed type channel selection scheme in which whether an assignment of a frequency/radio channel is possible or not is judged according to a receiving level of a level measurement channel at a mobile station (which reads on column 2 lines 1-5), the radio channel control device characterized by having a reception unit for receiving a communication request and a measurement result of the receiving level of the level measurement channel in a radio zone that is a target of the communication request (which reads on column 8 lines 63-67 and column 9 lines 1-5), that are transmitted from the mobile station at a time of making the communication request; and, and judging whether the assignment of the frequency/radio channel is possible or not according to a selected carrier-to-interference ratio (CIR) (which reads on column 4 lines 23-30). However Schwinghammer et al. fails to disclose (a) a table for storing and managing an optimal carrier to-interference ratio (CIR) to be used as a threshold in judging whether the assignment of the frequency/radio channel is possible or not, (b) a judgment unit for adaptively selecting the optimal carrier-to-interference ratio (CIR) that is corresponding to a received receiving level measurement result from said table.

In the same field of endeavor, Tanoue further discloses a dynamic pricing method and apparatus for communication systems. In addition Tanoue discloses (a) a table (104) for storing

Art Unit: 2681

and managing an optimal carrier to-interference ratio (CIR) to be used as a threshold in judging whether the assignment of the frequency/radio channel is possible or not (which reads on figure 1, and disclosed in column lines detx5), (b) a judgment unit (105) for adaptively selecting the optimal carrier-to-interference ratio (CIR) that is corresponding to a received receiving level measurement result from said table as disclosed in column 2 lines 24-34.

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Schwinghammer et al. by specifically providing for (a) a table for storing and managing an optimal carrier to-interference ratio (CIR) to be used as a threshold in judging whether the assignment of the frequency/radio channel is possible or not, (b) a judgment unit for adaptively selecting the optimal carrier-to-interference ratio (CIR) that is corresponding to a received receiving level measurement result from said table for the purpose of properly determining the amount of interference.

**Regarding claim 5**, Schwinghammer et al. in view of Tanoue discloses everything claimed, as applied above (see claim 3) additionally, Schwinghammer et al. discloses In a radio channel control device of a mobile communication system using a TDMA mobile communication scheme in which a plurality of radio channels are formed in a radio carrier by time division multiplexing the radio carrier and each one of a plurality of mobile stations uses a respective radio channel, a radio channel assignment judgment method characterized by (which reads on column 2 lines 1-5) receiving a communication request and a measurement result of a receiving level of a level measurement channel in a radio zone that is a target of the communication request (which reads on column 8 lines 63-67 and column 9 lines 1-5), that are transmitted from one mobile station at a time of making the communication request; and judging

whether there is another mobile station that is carrying out communication by a radio channel in an identical radio carrier as a radio channel to be assigned to said one mobile station or not (which reads on column 4 lines 23-30), and if there is said another mobile station, selecting an unused assignment candidate radio channel while comparing a control frequency receiving level in a radio zone used for communication at said another mobile station and the receiving level of the level measurement channel at said one mobile station, and judging an assignment of a radio channel to said one mobile station according to a comparison result (which reads on column 4 lines 30-34).

**Regarding claim 6**, Schwinghammer et al. in view of Tanoue discloses everything claimed, as applied above (see claim 3) additionally, Schwinghammer et al. discloses the radio channel assignment judgment method characterized in that the judging step makes a request to said another mobile station to measure the control frequency receiving level in the radio zone used for communication and transmit a measurement result of the control frequency receiving level, receives the control frequency receiving level measured and transmitted by said another mobile station in response to the request, and compares a received control frequency receiving level and the receiving level of the level measurement channel at said one mobile station (which reads on column 8 lines 63-67 and column 9 lines 1-5).

**Regarding claim 7**, Schwinghammer et al. in view of Tanoue discloses everything claimed, as applied above (see claim 3) additionally, Schwinghammer et al. discloses the radio channel assignment judgment characterized by assigning a selected unused assignment candidate radio channel to said one mobile station, if the receiving level of the level measurement channel at said one mobile station is greater than the control frequency receiving level in the radio zone

Art Unit: 2681

used for communication at said another mobile station by a prescribed value or more at the judging step (which reads on column 8 lines 63-67 and column 9 lines 1-5).

*Regarding claims 8-10*, Schwinghammer et al. discloses everything claimed, as applied above (see claim 1) additionally, Schwinghammer et al. discloses radio channel control device of a mobile communication system using a TDMA mobile communication scheme in which a plurality of radio channels are formed in a radio carrier by time division multiplexing the radio carrier and each one of a plurality of mobile stations uses a respective radio channel, a radio channel control device characterized by having (which reads on column 2 lines 1-5); a reception unit for receiving a communication request and a measurement result of a receiving level of a level measurement channel in a radio zone that is a target of the communication request, that are transmitted from one mobile station at a time of making the communication request (which reads on column 8 lines 63-67 and column 9 lines 1-5); and a judgment unit for judging whether there is another mobile station that is carrying out communication by a radio channel in an identical radio carrier as a radio channel to be assigned to said one mobile station or not, and if there is said another mobile station, selecting an unused assignment candidate radio channel while comparing a control frequency receiving level in a radio zone used for communication at said another mobile station and the receiving level of the level measurement channel at said one mobile station, and judging an assignment of a radio channel to said one mobile station according to a comparison result (which reads on column 4 lines 23-30).



***Citation of Pertinent Prior Art***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Suzuki et al.*** (U. S. Patent Number 5,903,843) discloses traffic channel assignment based on traffic density and signal quality:

***Ushirokawa*** (U. S. Patent Number 5,448,761) discloses channel assignment in a cellular mobile radio network with a CIR threshold level selected in dependency on priority degrees of channels used in the network;

***Ishikawa et al.*** (U. S. Patent Number 5,838,671) discloses method and apparatus for call admission control in CDMA mobile communication system;


Art Unit: 2681

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9700.

S. Smith   
June 28, 2003

  
**TEMICA M. DAVIS**  
**PATENT EXAMINER**